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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/623,694      | 07/21/2003  | Thomas K. Allen      | 34169               | 5340             |

7590 04/10/2006

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| EXAMINER |
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TOOMER, CEPHIA D

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

1714

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/623,694             | ALLEN ET AL.        |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Cephia D. Toomer       | 1714                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-14 and 26-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-14 and 26-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 23, 2006 has been entered.

This Office action is in response to the amendment filed January 23, 2006 in which claim 6 was amended and claims 26-28 were added.

The previous rejection of the claims under 35 USC 112, first paragraph is withdrawn in view of the amendment to the claim.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 6, 26 and their dependents and claim 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed

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invention. The specification does not broadly support "fuel additives nor fuel additives that are not liquid. At page 4, lines 11-15, it is disclosed that the carriers comprise "liquid fuel improver additives" such as the hydrocarbon compounds and glycol esters or ethers.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 6, 7 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by McLaughlin (US 5,948,323).

McLaughlin teaches colloidal-sized particles of solid chemicals that act as smoke suppressants and flame retardants (see abstract). The chemicals are milled to reduce their size and dispersed in a fluid vehicle such as water or organic liquids such as ethylene glycol (alcohol) and fats (esters) (fuel additives)(see abstract and claims 13-14). The solid chemicals include antimony trioxide and a mixed metal oxide of zinc and magnesium (see col. 2, lines 8-29). The solid chemical and fluid are prepared as a slurry and processed in an agitated media mill (see col. 2, lines 51-55; col. 3, lines 47-58). It is also preferred that the slurry further comprise a dispersion agent (see col. 2, lines 64-65). The final slurry comprises 5-60 wt % of the comminuted solid chemicals, 40-95 wt % fluid vehicle and 2-25 wt % dispersion agent (see col. 5, lines 38-42).

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In Example 3, McLaughlin adds additional water to the solid chemical , water and dispersion mixture. Since McLaughlin teaches the same method, the dispersion of his invention would inherently remain suspended for at least one month.

Accordingly, McLaughlin teaching all the limitations of the claims anticipates the claims.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6-14 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vickery (US 3,923,712) in view of WO03051562 with US 20050069648 as the English translation.

Vickery teaches a metal oxide paste dispersion comprising a mixture of 50-80 % magnesium oxide and zinc oxide, a nonaqueous liquid vehicle and a surface active agent (see abstract; col. 4, lines 19-27). The nonaqueous liquid may be alcohols, acids and esters (see col. 5, lines 26-38). The surface active agent may be a fatty acid such as oleic acid or an aromatic sulfonic acid (see col. 6, lines 46-65). The dispersion is prepared by introducing the magnesium oxide into a mixer along with the liquid vehicle and surface active agent. This mixture is passed through a colloid mill (see col. 4, lines 33-56). Vickery teaches that the proportions of the metal oxides, liquid vehicle and surfactant may be optimized (see col. 5, lines 2-6). The teaching suggests the

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proportions of claim 13). Vickery teaches the limitations of the claims other than the differences that are discussed below.

In the first aspect, Vickery differs from the claims in that he does not pulverize the slurry before the addition of the surfactant nor does he teach adding addition carrier. However, the selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results and the selection of any order of mixing ingredients is prima facie obvious. In re Gibson, 5 USPQ 230 (CCPA 1930).

With respect to the addition of more carrier, Vickery teaches that the amount of liquid vehicle (carrier) may be optimized.

In the second aspect, Vickery differs from the claims in that he does not specifically teach the claimed carrier. However, WO teaches this limitation.

WO teaches liquid vehicles used to prepare metal oxides dispersions. The liquids include alcohols, glycol ethers, etc (see paragraphs 0045, 0046, 0049 and 0050).

It would have been obvious to one of ordinary skill in the art to replace the liquid vehicle of Vickery with a glycol ether because WO teaches that the alcohols taught by WO are functional equivalents of glycol ethers.

Vickery fails to teach that the metal oxide particles remain suspended for at least one month. However, it would be reasonable to expect that the oxide particles would remain suspended given that Vickery teaches a similar metal oxide dispersion.

8. Applicant's argues that McLaughlin fails to teach the specific carrier materials being claimed.

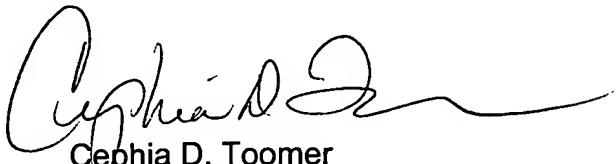
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9. The examiner respectfully disagrees. Almost all, if not all, of the components disclosed by McLaughlin as liquid vehicles are considered fuel additives.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cephia D. Toomer whose telephone number is 571-272-1126. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Cephia D. Toomer  
Primary Examiner  
Art Unit 1714